

REMARKS

I. Introduction

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1 is currently being amended. Support for this amendment can be found throughout the specification. Specifically, page 4 lines 6-20 states “an oil based material which is immiscible with water is suspended in an aqueous solution of gum arabic as a core material, then mixed with an aqueous alkaline solution of an enteric anionic cellulose derivative so that complex coacervation occurs between the anionic cellulose derivative and the gum arabic which as adsorbed on the oil-based core material and has been suspended.” Additionally, there is support on page 7 lines 13-23 stating “a pH of 4.5 to 7.0 may be preferable.”

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 9-12 are now pending in this application. Additionally, claims 9-12 are currently under review in this application.

II. Claim Rejection- 35 U.S.C. § 103

Claims 9-12 are rejected under 35 USC 103(a) as being unpatentable over Ricoh (JP51104829A) in view of Morishita et al (US 3,943,063) and Seitz et al (US 5,169,826).

A. Current Obviousness Standard

The Supreme Court recently reaffirmed the Graham factors for determining obviousness in *KSR Int'l Co. v. Teleflex Inc.* (No. 04-1350) (U.S., April 30, 2007). The Graham factors, as outlined by the Supreme Court in *Graham et al. v. John Deere Co. of Kansas City et al.*, 383 U.S. 1 (1966), are: 1) determining the scope and contents of the prior art; 2) ascertaining the differences between the claimed invention and the prior art; 3)

resolving the level of ordinary skill in the pertinent art; and 4) evaluating evidence of secondary consideration. The Supreme Court recognized that a showing of "teaching, suggestion, or motivation" to combine the prior art to meet the claimed subject matter could provide a helpful insight in determining whether the claimed subject matter is obvious under 35 U.S.C. § 103(a), and held that the proper inquiry for determining obviousness is whether the improvement is more than the predictable use of prior art elements according to their established functions. The Court noted that it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed, and specifically stated:

Often, it will be necessary . . . to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was *an apparent reason to combine the known elements in the fashion claimed* by the patent at issue. To facilitate review, this analysis should be made explicit.

KSR Int'l Co. v. Teleflex Inc., slip op. at 14 (emphasis added). As discussed below, the cited art cannot render the claimed invention obvious.

B. Ricoh in view of Morishita and Seitz

According to Ricoh, the microcapsule toner is prepared by mixing an aqueous suspension of component (a) with an aqueous solution of the inner-wall to form microcapsules in the aqueous medium, and then adding an aqueous suspension of the outer-wall material, followed by spray-drying of the resulting microcapsule slurry (abstract). Therefore, Ricoh discloses duplex walls.

In contrast, the present invention discloses production of a single wall (a microcapsule shell) of a complex of the gum arabic and the enteric anionic cellulose derivative. Thus, the shell of the microcapsule contains both polymers of the gum arabic and the enteric anionic cellulose derivative. In fact, the office concedes that Ricoh "does not explicitly teach the claimed cellulose derivative as an outer material." Office Action, page 2.

Thus, it would not have been obvious to combine Ricoh with Morishita '063 or Seitz '826 to create a microcapsule shell with only a single wall.

The Examples described in Ricoh contain pH values. However, Ricoh fails to explain the relationship between the pH and formation of the inner and outer walls. Please see the translation of Example 1 of Ricoh (Appendix 1). In Example 1, the microcrystalline wax is surrounded by the inner wall of gelatin-gum arabic and then by the outer wall of poly(vinyl methyl ether) maleic anhydride copolymer. The outer wall is hardened by increasing the pH value to 10. However, Ricoh fails to explain why the pH value 10 was used. Further, neither Morishita '063 nor Seitz '826 teaches such a pH factor. Therefore, neither Morishita nor Seitz remedy the deficiency of Ricoh. Accordingly, one of ordinary skill in the art would not have arrived at the use of the gum arabic solution having a pH value of 4.5 to 7.0 of the present invention.

CONCLUSION

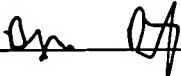
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.


The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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APPENDIX 1

Partial Translation of JP51-104829A

Example 1

An aqueous 5% by weight gum arabic solution (10g) having a pH value of 10 was prepared by using an 1N NaOH solution. An aqueous NaOH solution (50g) having a pH value of 10 and a microcrystalline wax latex (supplied by Sun of Chemical Co., Ltd., USA; solid portion; 45% by weight) (100g) were added in this order to the aqueous gum arabic solution and stirred for ten minutes. An aqueous 5% by weight gelatin solution (100g) having a pH value of 10 was added thereto. While the resulting mixture was stirred slowly at $50\pm 1^{\circ}\text{C}$, acetic acid was added dropwise to the mixture for two hours until the pH value of the mixture reached 4.8 so that mixed particles of the gelatin and the gum arabic were phase-separated around the microcrystalline particles. Subsequently, water (100g) having a temperature of 5°C was added thereto and stirred for 30 minutes at 5°C . Then an aqueous 10% by weight solution (30g) of poly(vinyl methyl ether) and maleic anhydride copolymer (Gantrez AN-119 produced by GAF in USA) was added thereto. While preventing the coagulation of the capsule particles, an aqueous 37% formaldehyde solution (3g) was added thereto. Subsequently, the pH value of the resulting mixture was raised to 10. It was slowly raised to 50°C over about an hour with stirring so as to harden the capsule wall.

On the other hand, a dispersion of carbon black (Aqua Carbon Colo Index No. 5 produced by Columbia Carbon Co., Ltd. in USA) (4g) in polyvinyl acetate latex (produced by Daicel Co. Ltd.; solid portion: 45% by weight) (55g) was mixed with said capsule liquid and stirred sufficiently for ten minutes to form a capsule slurry.

Finally, the capsule slurry was spray-dried under the spray pressure (as a compressor pressure) of 5.6 kg/cm^2 by using a Niro atomizer at an inlet temperature of 135°C and at an outlet temperature of 85°C so that a microcapsule toner for pressure fixing was obtained.